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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,197	03/02/2004	Ki-Dong Kim	51110/DBP/Y35	1982

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EXAMINER

MIDKIFF, ANASTASIA

ART UNIT PAPER NUMBER

2882

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/791,197	KIM ET AL.	
	Examiner	Art Unit	
	Anastasia Midkiff	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>01 Mar 2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of certified translation of foreign priority document, which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent to Hirano et al. (USP# 6,879,107) in view of Derwent Abstract for Korean Patent to Ahn (Derwent Acc. No. 2002-250998).

With respect to Claims 1 and 4, Hirano et al. teach a plasma display panel comprising: a first substrate (21) and a second substrate (11) provided with a predetermined gap there between (Figure 1), and disposed substantially parallel to each other (Figure 1); a plurality of address electrodes, one in each cell for multiple cells in the panel (22, Column 3 Lines 39-55) formed on the first substrate (Figure 1); a first dielectric layer (23) formed on a front surface of the first substrate, covering the address electrodes (Figure 1); a plurality of barrier ribs (24) mounted on the first dielectric layer with a predetermined height to provide a discharge space (Figure 1); a phosphor layer (26) formed within the discharge space (Figure 1); a plurality of discharge sustain

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electrodes (12) provided on a front surface of the second substrate facing the first substrate, and disposed generally perpendicular to the address electrodes (Figure 1); a second dielectric layer (13) formed on the front surface on the second substrate, covering the discharge sustain electrodes (Figure 1); and a passivation layer (14) coated on the second dielectric layer (Figure 1), comprising MgO and Fe, wherein Fe is present in an amount less than 400ppm to lower the priming voltage of the display (Column 2 Lines 41-67, and Column 3 Lines 1-2).

Hirano et al. do not teach that passivation layer includes Si or that Fe provided is in an amount specifically ranging from 15-90 ppm or from 20-70 ppm, respectively.

Ahn teaches a passivation layer for a plasma display comprising MgO and silicon, wherein said layer contains 0.03 to 3 percent by weight of Si (Page 2, Lines 7-13) to provide a high secondary electron generation rate for reducing discharge initiating voltage and remove wall charges (Page 2, Lines 1-19).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the silicon material of Ahn in the apparatus of Hirano et al. for the purpose of lowering discharge initiating voltages in the plasma display panel, thereby protecting the dielectric layer of the device.

Further with respect to Claims 1 and 4, although Hirano et al., as modified by Ahn, teach the use of Fe and Si in the passivation layer in small amounts for lowering the initiating or priming voltage of the display, they do not specifically teach that the amount of Fe is within a range of 15-90 ppm or 20-70 ppm, respectively. It would have been obvious to one having ordinary skill in the art at the time the invention was made

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to choose the range of 15-90 ppm or 20-70 ppm for the amount of Fe within the layer, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 (CCPA 1955).

With respect to Claims 2, 3, and 5, Hirano et al. teach most of the elements of the claimed invention, but do not teach the use of Si in an amount ranging from 50-500 ppm or from 80-350 ppm, respectively.

Ahn teaches a passivation layer for a plasma display comprising MgO and silicon, wherein said layer contains 0.03 to 3 percent by weight of Si (Page 2, Lines 7-13) to provide a high secondary electron generation rate for reducing discharge initiating voltage and remove wall charges (Page 2, Lines 1-19).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the silicon material of Ahn in the apparatus of Hirano et al. for the purpose of lowering discharge initiating voltages in the plasma display panel, thereby protecting the dielectric layer of the device.

Further with respect to Claims 2, 3, and 5, although Hirano et al., as modified by Ahn, teach the use of Si in the passivation layer in small amounts for lowering the initiating or priming voltage of the display, they do not specifically teach that the amount of Si is in a range from 50-500 ppm or from 80-350 ppm, respectively. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the range of 50-500 ppm or 80-350 ppm for the amount of Si within the layer, since it has been held that where the general conditions of a claim are disclosed in the

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prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 (CCPA 1955).

Response to Arguments

Applicant's arguments, see Applicant Remarks, filed 15 March 2006, with respect to 35 USC 102(b) rejections of Claims 1-5 as anticipated by Park have been fully considered and are persuasive. The previous rejections of Claims 1-5 have been withdrawn.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent to Mitamura et al. (USP# 6,437,506) with respect to the structure of the plasma display panel, including all layers and MgO passivation layer, but without Fe and Si.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anastasia Midkiff whose telephone number is 571-272-5053. The examiner can normally be reached on M-F 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ASM
5/31/06



EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER



6/5/06